

REMARKS

Claims 1-31 are pending. An Office Action mailed March 11, 2004 objected to the drawings, objected to Claim 28, and rejected Claims 25, 26, and 31 under 35 U.S.C. § 112, Claims 1, 2, 23, and 24 under 35 U.S.C. § 102 and Claims 1-31 under 35 U.S.C. § 103. By way of this amendment, Applicants hereby amend Claims 1, 23, 25, and 28-30. Pursuant to 37 CFR § 1.111, Applicants hereby respectfully request reconsideration of the application.

OBJECTION AND DRAWINGS

The Office Action objected to the drawings because the wavelengths selected optical switch must be shown or the future cancelled from the claim. Applicants have amended the claims to include the term device instead of wavelength selective optical switch, thereby rendering this rejection moot.

OBJECTION TO CLAIM 28

The Office Action objected to Claim 28 because of informalities. Applicants hereby amend Claim 28 in order to overcome the noted objection.

REJECTION OF CLAIMS 25 AND 31 UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

The Office Action rejected Claim 25 for failing to comply with the enablement requirement. In particular, the Office Action states that the Applicants recite "calculating position and orientation" of each diffraction grading element and the specification does not provide sufficient teachings as to how calculating the position and orientation is carried out. Applicants respectfully traverse this rejection.

Applicants submit that calculation of position and orientation of each diffraction degrading element is described in Paragraphs 32 and 35 of the specification and that this calculation is a simple calculation of wavelength diffracting off of a surface as is understood by one of ordinary skill in wave diffraction. Therefore, Applicants submit that Claims 25 and 31 comply with the enablement requirement.

REJECTION OF CLAIMS 25, 26, AND 31 UNDER 35 U.S.C. 112, SECOND PARAGRAPH

The Office Action rejected Claims 25, 26, and 31 for being indefinite for failing to particularly point and distinctly claim the subject matter which Applicants regard as the invention. With regard to Claims 25 and 31, the Office Action states that the specification does

not distinctly point out as to how determining and calculating position and orientation/locations are done and which component carries out such calculation.

With regard to Claims 25 and 31, the calculated position and orientation and the determined locations are performed by the controller 34 (paragraph 32; varies the positions of grading elements 14) as determined by commonly known wavelength diffraction rules. Therefore, Applicants submit that the content of Claims 25 and 31 are definite.

With regard to Claim 26, Applicants submit that Claim 26 does not include any reference to a wavelength selective optical switch. Therefore, Applicants submit that this rejection is moot.

REJECTION OF CLAIMS 1, 2, 23, AND 24 UNDER 35 U.S.C. § 102

The Office Action rejected Claims 1, 2, 23, and 24 as being anticipated by Rumer. The Office Action states the Rumer discloses an apparatus for processing light including an emitter, spatially positioned receptors, a diffracting member, and the controller. With regard to amended independent Claims 1 and 23, Applicants respectfully traverse this rejection.

Applicants submit that Rumer includes a prismatic element 46 for diffracting light from a source to receptors. The diffraction that occurs by the prismatic element performs fixed diffraction of the source light. The diffraction gradient of the prismatic element cannot be varied. Therefore, Applicants submit that Rumer fails to teach or suggest a diffracting member for variably diffracting the wavelength bands to various receptors. Therefore, Applicants submit that independent Claims 1 and 23 are allowable over Rumer. Because Claims 2 and 24 depend from allowable Claims 1 and 23, they are allowable for the same reasons that make their corresponding independent claims allowable.

REJECTION OF CLAIMS 1-31 UNDER 35 U.S.C. § 103

The Office Action rejected Claims 1-31 as being unpatentable over Gutin in view of Rumer and further in view of Butler. The Office Action states that Gutin discloses an optical input, optical output, diffraction grading member, and a controller. The Office Action states that Gutin does not explicitly disclose a controller operatively connected to the variable diffraction grading member and that Rumer discloses a controller operatively connected to the variable diffraction grading member. Applicants respectfully traverse this rejection.

Applicants submit that Rumer discloses a diffraction grading member that is just a single element, see prismatic member 46. Also, the prismatic element of Rumer is a fixed diffraction element, in other words, light hitting at the same point on the prism will diffract at the same angle every time. Therefore, Applicants submit that if Gutin and Rumer were to be combined, then Rumer would only suggest that just a single diffraction element is controlled and not to separately control a plurality of elements. This is because Rumer would output a single signal to the piezo electric actuator 54. Therefore, Applicants submit that independent Claims 1, 10, 23, 25, 26, 28, and 31 are allowable over the cited references.

Because Claims 2-9, 11-22, 24, 27, 29, and 30 depend from allowable independent claims, they are allowable for the same reasons that make their corresponding independent claims allowable.

CONCLUSION

Applicants respectfully submit that all of the claims of the pending application are now in condition for allowance over the cited references. Accordingly, Applicants respectfully request withdrawal of the rejections, allowance, and early passage through issuance. If the examiner has any questions, the examiner is invited to contact the Applicant's agent listed below.

Respectfully submitted,

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MAIL CERTIFICATE

I hereby certify that this communication is being deposited with the United States Postal Service via first class mail under 37 C.F.R. § 1.08 on the date indicated below addressed to: MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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